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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 67794-67867	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. PCT/SE 2002/000681	International filing date (day/month/year) 05.. 04.. 2002	Priority date (day/month/year) 26.. 03.. 2002
International Patent Classification (IPC) or national classification and IPC B67D 5/372, G01F 23/292, B60K 15/077		
Applicant IDENTIC AB et al		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☒ (sent to the applicant and to the International Bureau) a total of 9 sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Box No. I    | Basis of the report   |
| <input type="checkbox"/> Box No. II              | Priority  |
| <input type="checkbox"/> Box No. III             | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/> Box No. IV              | Lack of unity of invention  |
| <input checked="" type="checkbox"/> Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI              | Certain documents cited   |
| <input type="checkbox"/> Box No. VII             | Certain defects in the international application  |
| <input checked="" type="checkbox"/> Box No. VIII | Certain observations on the international application   |

Date of submission of the demand 13.10.2003	Date of completion of this report 24.06.2004
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# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2002/000681

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-12 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- pages\* 13-21 \_\_\_\_\_ received by this Authority on 07.05.2004
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages 1-5 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (specify): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	1-40, 44-47, 51-57	YES
	Claims	41-43, 48-50	NO
Inventive step (IS)	Claims	1-40	YES
	Claims	41-57	NO
Industrial applicability (IA)	Claims	1-57	YES
	Claims		NO

**2. Citations and explanations (Rule 70.7)**

The following documents were cited in the International Search Report:

D1: US 3662924  
D2: US 4053002  
D3: US 4503994  
D4: US 5785100  
D5: EP 0697370  
D6: GB 2138947  
D7: US 3864577

**Claims 1-40**

The invention according to claim 1 refers to a method for spill-free refuelling comprising the establishing of a liquid tight connection between a refuelling gun nozzle and a coupling piece of the fuel receiving object and detecting a predetermined fuel level and interrupting the fuel flow when said level is detected. The method is characterised in that the level detection signalling system is established by moving the gun into a position for establishment of the liquid tight connection.

The invention according to claims 19 refers to a system for spill-free refuelling comprising means for the establishing of a liquid tight connection between a refuelling gun nozzle and a coupling piece of the fuel receiving object and further comprising means for detecting a predetermined fuel level and interrupting the fuel flow when said level is detected. The system is characterised in that the level detection signalling system is arranged to be established by means of moving the gun into a position for establishment of the liquid tight connection.

.../...

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: BOX V

The invention solves the problem of having a spill-free connection confirmed establishing fuel level detection in a user friendly way.

D1 describes a light-controlled fluid dispenser. The dispenser solves the problem of overflowing during dispensing. According to D1, a prism is arranged in the outlet end of the dispenser. A fibre optic element connects the prism to a photocell, which controls the fuel valve. In operation a level detection signalling configuration in the form of a light signal is established when the dispenser is brought into connection with the fuel container. When the prism is wet, its refractive index changes and the light signal is interrupted, thus interrupting the fuel valve (col 5, lines 70-75).

D3 also describes a light-controlled fluid dispenser. A level detecting signalling configuration is established by inserting the dispenser into the fuel container and switching on the pump power switch. (col 3, lines 58-68, col 4, lines 1-30).

However, neither D1 nor D3 includes that the level detection signalling configuration is established by moving the gun into position for establishment of the liquid-tight connection. Therefore, D1 and D3 have been reconsidered to be of no particular relevance in view of claims 1-40.

Consequently, the method and system for spill-free refuelling according to claims 1-18 and 19-40 are considered to be novel and to comprise an inventive step. The method and system are also considered to be industrially applicable.

**Claims 41-57**

D6 describes a method and device for detecting the fuel level in a tank. According to D1, one or several prisms are provided in the tank. Each prism has a first optical fibre attached to its first surface and a second optical fibre attached to its second surface. A light source is provided close to the first fibre and a photocell is provided close to the second fibre. Light rays are transmitted through the first fibre, the rays are reflected of the prism and transmitted through the second fibre to the photocell.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of Box V

When the prism becomes immersed in the liquid, the index of refraction changes and light can no more be reflected through the prism (page 3, lines 11-18, figure 4)..

Consequently, the method according to claims 41-43 lacks novelty. Also, the device according to claims 48-50 lacks novelty.

The method according to claims 44-47 and the device according to claims 51-57 do only enclose embodiments obvious to a person skilled in the art and are therefore considered not to involve an inventive step.

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**Box No. VIII** Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The number of claims shall be reasonable in consideration of the nature of the invention claimed (PCT Rule 6.1)

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